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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/194,286	11/23/1998	UWE BRIEM	P98.2706	3028

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BELL, BOYD & LLOYD, LLC
P. O. BOX 1135
CHICAGO, IL 60690-1135

EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 05/05/2004

21

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/194,286

Applicant(s)

BRIEM, UWE

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,9 and 13-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 21-23 is/are allowed.
6) ☒ Claim(s) 8,9,15-20,24 and 25 is/are rejected.
7) ☐ Claim(s) 13 and 14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 24 recites the limitation "the upper rate" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "the cell rate" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "buffer stores" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "buffer stores" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA), and further in view of Hayter (US 5,734,650)

Regarding claims 21, AAPA teaches a scheduler (fig. 2 box S).

AAPA teaches generating an initial planning control signal that takes into account scheduling in the scheduler and supplies the scheduler with the initial planning control signal (fig. 2 see connection AE to EE, pg. 3 lines 10-20).

AAPA is silent on a first scheduler that limits a lower transmission rate for the data packets when it is desired not to limit an upper transmission rate of the data packets.

AAPA is silent on a second scheduler that limits the upper transmission rate for the data packets when it is desired to limit the upper transmission rate of the data packets

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Hayter teaches a first scheduler that limits a lower transmission rate for the data packets when it is desired not to limit an upper transmission rate of the data packets (fig. 2 box 30).

Hayter teaches a second scheduler that limits the upper transmission rate for the data packets when it is desired to limit the upper transmission rate of the data packets (fig. 2 box 32).

Therefore it would have been obvious to one of ordinary skill in the art, having both AAPA and Hayter before him/her and with the teachings [a] as shown by AAPA, an apparatus for transmission of data packets, and [b] as shown by Hayter, a first and second scheduler for limits the lower and peak transmission rates, to be motivated to modify the system of AAPA by replacing the scheduler of AAPA with the schedulers of Hayter. This would improve the system by permitting the system to adjust both the peak and sustainable rates.

Regarding claim 22, an output device (AAPA: fig. 2 box AE) that feeds back a result of transmitting the data packets indicate of an actual output rate (AAPA: pg. 3 lines 10-12). Note, the time in between acknowledgements indicates the output rate.

Regarding claim 23, an input device (AAPA: fig. 2 box EE) for comparing the feed back result to data and adjusting operation of the scheduler to account for the actual output rate of the data packets (AAPA: carry out initial for the next transmission, pg. 3 lines 17-20).

5. Claims 8, 9, 15-17, 19, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA), and further in view of Hayter (US 5,734,650) and Gun (US 5,777,984).

Regarding claims 24 and 25, AAPA teaches a method for optimizing the utilization of connecting section systems (fig. 2) in which information is transmitted in data packets (spec: pg. 2 lines 19-23).

Regarding claims 24 and 25, the system provides for a scheduler (fig. 2 box S).

Regarding claims 24 and 25, the system provides a queue identifier (fig. 2 QID) which is stored in a packet header (pg. 2 lines 27-29).

Regarding claims 24, 25, and 9, the system provides an input device (fig. 2 box EE) which contains a table (fig. 2 box

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T) which includes current storage levels of buffer stores for storing packets (the buffer filling level, pg. 3 lines 12-17). The examiner maintains that the buffer filling level is stored in the table.

Regarding claims 24 and 25, the system generates a control signal (fig. 2 see connection AE to EE, pg. 3 lines 10-12) based on the data packet identifier and current storage levels for controlling the scheduler (fig. 2 box S). Note, the data packet identifier (fig. 2 QID) and storage queues (fig. 2 P) are shown as inputs to the box providing feedback information (fig. 2 box AE).

Regarding claim 25, AAPA teaches feeding back a result of reading out the data packets from at least one of the buffer stores representative of the current storage levels of the buffer stores to the input device and influencing the operation of the scheduler based on the result fed back to the input device (fig. 2 see connection AE to EE).

Regarding claims 24 and 25, AAPA is silent on providing a first scheduler for scheduling transmission of the data packets, which are representative of lower transmission rates.

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Regarding claims 24 and 25, Hayter teaches providing a first scheduler for scheduling transmission of data packets, which are representative of lower transmission rates (fig. 2 box 30).

Regarding claims 24 and 25, AAPA is silent on providing a second scheduler for scheduling transmission of the data packets to precede the first scheduler depending on the queue identifier, that is when the information indicates that the transmission rate is not to be limited at the upper rate the first scheduler schedules the cell rate for the data packets before the second scheduler, wherein the data packets corresponding connection parameters which are representative of upper transmission rates of the data packets are limited during the transmission process.

Regarding claims 24 and 25, Hayter teaches providing a second scheduler for scheduling transmission of the data packets (fig. 2 box 32), that is when the information indicates that the transmission rate is not to be limited at the upper rate the first scheduler schedules the cell rate for the data packets before the second scheduler (cells not placed on the peak cell rate calendar, col. 3 line 51 - col. 4 line 2), wherein the data packets corresponding connection parameters which are

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representative of upper transmission rates of the data packets are limited during the transmission process.

Regarding claims 24 and 25, although Hayter specifically teaches a sustainable cell rate calendar and a peak cell rate calendar, the reference does not explicitly teach the peak cell rate calendar preceding the sustainable rate calendar. However, the reference states that (fig. 2) is merely one example of the transmission rate control process covered by the invention (col. 4 lines 6-15). It would have been obvious for one of ordinary skill in the art to place the peak calendar in front of the sustainable calendar. This would improve the system by being able to determine if the user is exceeding the maximum allowable bandwidth as soon as possible.

Regarding claim 17, AAPA is silent on controlling the operation of the first scheduler dependent on a result of the second scheduler.

Regarding claim 17, Hayter teaches controlling the operation of the first scheduler dependent on a result of the second scheduler (cells not placed on the peak cell rate calendar, col. 3 line 51 - col. 4 line 2).

Therefore it would have been obvious to one of ordinary skill in the art, having both AAPA and Hayter before him/her and with the teachings [a] as shown by AAPA, a method for optimizing the utilization of connecting section systems in which information is transmitted in data packets, and [b] as shown by Hayter, a first scheduler for controlling the lower transmission rate data, a second scheduler for controlling the peak rate data, scheduling transmission of the data packets to precede the first scheduler depending on the queue identifier, wherein the data packets corresponding connection parameters which are representative of upper transmission rates of the data packets are limited during the transmission process and controlling the operation of the first scheduler dependent on a result of the second scheduler, to be motivated to modify the system of AAPA by replacing the single scheduler of AAPA (fig. 2 box S) with a peak and sustainable cell rate schedulers connected as shown by (Hayter: fig. 2 box 30, 32). This would improve the system by permitting the system to adjust both the peak and sustainable rates.

Regarding claims 24 and 25, although AAPA teaches a queue identifier in the packet header, the reference is silent on including information related to the transmission rate of the

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packet in the packet header and the packet transmission rate information could be used to determine if the peak cell rate scheduler should be bypassed.

Regarding claims 24 and 25, Gun (US 5,777,984) teaches, including information related to the transmission rate of the packet in the packet header (fig. 2: ER, CCR, MCR).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of AAPA and Hayter and Gun before him/her and with the teachings [a] as shown by the combination of AAPA and Hayter, a method for optimizing the utilization of connecting section systems in which information is transmitted in data packets, and [b] as shown by Gun, including information related to the transmission rate of the packet in the packet header, to be motivated to modify the system of the combination of AAPA and Hayter by modifying the packet headers to include transmission rate information. The packet transmission rate information could be used to determine if the peak cell rate scheduler should be bypassed. Note, Hayter teaches bypassing the peak cell rate calendar based upon the PCR threshold (col. 3 line 51 - col. 4 line 2). This modification can be performed in software. This would improve the system by providing a means of informing the system of the current

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transmission rate of the incoming packet and if a scheduler should be bypassed.

Regarding claim 8, weighted fair queuing (AAPA: pg. 2 lines 19-23).

Regarding claim 15 and 16, the data packets are ATM cells (AAPA: pg. 2 line 21).

Regarding claim 19, feeding back a result of a transmitted data packet to assist in the determination whether the transmission rate of a later data packet should be limited (AAPA: fig. 2 see connection AE to EE).

Regarding claim 20, storing a table indicating which connections require limiting during transmission (AAPA: fig. 2 box T).

Allowable Subject Matter

6. Claims 21-23 are allowed.

7. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter.

Regarding claims 13 and 14, although AAPA teaches a queue identifier, nothing of the prior art of reference teaches or fairly suggests entering the queue identifier while the connection is being set up.

Regarding independent claim 21, nothing in the prior art of the record teaches or fairly suggests generating, by the second scheduler, an initial planning control signal that in part represents a scheduling of the second scheduler and setting the lower transmission rate of the particular connection by the first scheduler in response to the initial planning control signal generated by the second scheduler. Support for the limitation is found (spec: pg. 7 lines 1-24). Note, AAPA teaches only generating an initial planning control signal (fig. 2 see connection AE to EE, pg. 3 lines 10-20).

Response to Arguments

8. The examiner accepts the applicant's reasoning that the verbs 'precede' and 'bypass' are interchangeable in the context of the claims (applicant: pg. 6 paragraph 3).

Applicant's arguments filed 1/16/2004 have been fully considered but they are not persuasive. The examiner disagrees with the applicant's contention that the arrangement of the schedulers in Hayter is static (applicant: pg. 7 1st paragraph). Hayter explicitly states that the arrangement as provided is an example and the invention is subject to variation (Hayter: col. 4 lines 6-17).

Conclusion

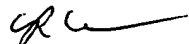
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be

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reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ronald Abelson
Examiner
Art Unit 2666

4/30/04

Seema S. Rao

4/30/04

**SEEMA S. RAO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**